

UNITED STATES OF AMERICA
ATOMIC ENERGY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
CONSUMERS POWER COMPANY)
)
(Midland Plant, Units 1 and 2))
_____)

Docket Nos. 50-329 and 50-330

MAPLETON INTERVENORS' PROPOSED FINDINGS OF FACT
AND CONCLUSIONS OF LAW

INTRODUCTION

This licensing proceeding was initiated under the provisions of the Atomic Energy Act of 1954, as amended, 42 U.S.C. Section 2011 et seq. for the purpose of considering applicant Consumers Power Company's application for issuance of a construction permit for the proposed Midland Plant, Units 1 and 2. In addition to the requirements for such a proceeding set forth in the provisions of the Atomic Energy Act and the regulations adopted thereunder, this proceeding was expanded to include an environmental evaluation as required under the National Environmental Policy Act of 1969 (NEPA) 42 U.S.C. Section 4321 et seq. and the regulations promulgated by the AEC for such environmental review, 10 CFR Section 50 appendix D, adopted pursuant to the decision of the District of Columbia Circuit Court in Calvert Cliffs Coordinating Committee, Inc. vs. AEC, 449 F.2d 1109 (1971).

THIS DOCUMENT CONTAINS
POOR QUALITY PAGES

8007230 905

G

FINDINGS OF FACT

1. The meteorological analysis of the proposed site and the data and models upon which it is based is insufficient and/or incompetent.

2. The operation of the proposed cooling pond and/or cooling system will create the likelihood of fogging and icing which will clearly constitute a traffic and safety hazard to the residents of Mapleton, Michigan, including the Mapleton Inter-venors, their business and/or social invitees.

3. The presence of fog and the deposition of water, either as a mist or as a glaze or rime ice, would, in the processes of condensation growth, will collect and concentrate whatever radioactive material is present in the atmosphere in the form of aerosols and water soluble gasses, and would concentrate such radioactive materials further in the deposited water, in such manner as to present an unacceptable health and environmental hazard.

4. The problem of fogging will be increased and aggravated by the operation of additional cooling facilities which the Dow Chemical Company will be obliged to construct in order to discharge into the atmosphere the excess heat transported to it in the form of process steam from the proposed nuclear plant.

5. An inadequate cost-benefit analysis has been made as to the responses in the immediate area of the Midland Plant attributable to the introduction of radioactive wastes into the air and into the cooling pond.

6. An inadequate cost-benefit analysis has been made of the response in the Tittabawassee River and in Saginaw Bay over a long period of time due to the introduction of liquid radioactive wastes into the river.

7. Applicants have not demonstrated their ability to insure the protection of Saginaw Bay and its natural resources from the effluent of the Tittabawassee and Saginaw River systems.

8. Insufficient consideration has been given to long time lags (associated with the biological concentration process in the coupled river and bay ecosystem) and to the lack of information on uptake and retention of the radioactive waste materials from the Midland Plant by aquatic organisms.

9. The risk to the Saginaw Bay ecosystem is unwarranted when alternate sources of energy are readily available.

10. It is not in the public interest to risk many unknown long-term effects on the bay and river resources, and the municipal water supplies of several communities.

11. The cost-benefit evaluation does not include all the costs over the lifetime of the plant; very significant costs in the downstream sink formed by Saginaw Bay have yet been considered.

12. The maximum annual release of tritium from the Midland facility would be 2.6 times the new AEC revised limits for tritium.

13. Applicant's postulated releases of radioactive contaminants are underestimates and biological concentration of radioisotopes will be considerably higher than predicted.

14. The proposed plant may emit radiation which would exceed maximum permissible exposure levels in the current or proposed radiation standards, if one considers the reconcentration factor of certain radionuclides, such as, for example, Cesium 137 or Strontium 90.

15. The synergistic relationships between thermal and radioactive pollution will provide an excellent opportunity for biological concentration of radioactivity in the food chain of the Midland area.

16. The biological effects of the tritium which will be released to the environment in the liquid waste discharges of the Midland reactor are too hazardous to justify selection of the Midland site.

17. There is insufficient knowledge to determine conclusively that chronic low level radiation does not cause significant genetic and teratogenic damage.

18. There is enough circumstantial evidence to raise a serious doubt concerning the safety of low level radiation.

19. No study and calculation of the environmental radiation which can be expected from this plant over its projected lifetime of operation and its corresponding effect upon human health has been performed.

20. Applicant failed to adequately evaluate costs and benefits of locating proposed plant at a greater distance from populated areas than proposed by applicant to minimize risk of exposure of the population to radioactive contamination or danger from a nuclear accident.

21. Applicant failed to adequately evaluate technical feasibility of delivering process steam to Dow Chemical Company in the event the Board determines plant should be located at a greater distance than proposed by applicant.

22. Applicant has inadequately evaluated the possibilities of (1) radioactive contamination of the Dow products, and (2) radioactivity released to the environment, since 25 percent to 40 percent of the process steam will not be recovered; and, in particular, evidence of heat exchanger malfunctions and fuel element cladding failure as they may affect estimates of radioactivity leakage to the process steam.

23. The radioactive emissions from the proposed nuclear plant will combine synergistically with gaseous and liquid effluents emitted from the chemical plants of the Dow Chemical Company, so as to produce harmful and toxic chemicals and substances in the atmosphere and/or the Midland area ecosystem, with a resultant adverse effect upon the health and well-being of the Mapleton Intervenors and other persons in the Midland area.

24. No adequate evaluation of the environmental effects of a loss of coolant accident in which the ECCS fails to perform effectively has been conducted.

25. No adequate benefit-cost analysis as required by 10 CFR 50, Appendix D, Subsection A. 3, has been performed and, in particular, but without limiting the

generality of the foregoing:

- (a) Benefits are not sufficiently quantified and consistently evaluated;
- (b) Generating costs are inadequately assessed;
- (c) Environmental cost computations are not specified in such a manner as to provide a comprehensive enumeration of the primary environmental impacts and the environmental sectors affected by the project;
- (d) The validity of applicant's methodology for assessing environmental cost is not substantiated by sufficient empirical evidence;
- (e) Applicant has failed to adequately
 - (1) evaluate the feasible alternative approaches with available technology;
 - (2) demonstrate its effort to internalize environmental costs;
 - (3) document its process of formulating alternative designs by means of supplementary information regarding viable alternative subsystem modifications it has considered.

26. The alleged benefits of the Midland nuclear plant will not adequately compensate for its huge environmental costs.

27. The Midland nuclear plant is unnecessary and is not a safe, economical reliable generator of electric power and process steam.

28. Liquid and gaseous radioactive waste releases of the plant will cause a significant adverse environmental impact.

generality of the foregoing:

- (a) Benefits are not sufficiently quantified and consistently evaluated;
- (b) Generating costs are inadequately assessed;
- (c) Environmental cost computations are not specified in such a manner as to provide a comprehensive enumeration of the primary environmental impacts and the environmental sectors affected by the project;
- (d) The validity of applicant's methodology for assessing environmental cost is not substantiated by sufficient empirical evidence;
- (e) Applicant has failed to adequately
 - (1) evaluate the feasible alternative approaches with available technology;
 - (2) demonstrate its effort to internalize environmental costs;
 - (3) document its process of formulating alternative designs by means of supplementary information regarding viable alternative subsystem modifications it has considered.

26. The alleged benefits of the Midland nuclear plant will not adequately compensate for its huge environmental costs.

27. The Midland nuclear plant is unnecessary and is not a safe, economical reliable generator of electric power and process steam.

28. Liquid and gaseous radioactive waste releases of the plant will cause a significant adverse environmental impact.

29. The validity of applicant's ecological study is not supported by sufficient theoretical and experimental data.

30. Applicant has not utilized the best available technology to minimize the environmental effects of the plant.

31. The operation of the plant will result in significant chemical discharges and dissolved solids will be concentrated by the pond so as to impair the water quality of the Tittabawassee River.

32. Applicant has failed to make a thorough and accurate cost comparison of a nuclear vs. fossil fuel plant to meet the alleged base load power needs of Midland; by failing to consider the significantly higher cost of decommissioning a nuclear plant.

33. Applicant has failed to adequately assess the additional burden of radioactivity which would be added to the environment, and in the production of various substances, including industrial, commercial and pharmaceutical products because of the possibility of radioactive steam which will be discharged to the environment through numerous vents.

34. Applicant has failed to adequately evaluate their interaction with living organisms in the river and in the surrounding biosphere, and in potential synergistic action with other chemicals, the heated water and used steam, all of which will be dumped into the river, and which have not been sufficiently studied.

35. Applicant has failed to adequately assess the extent to which the radioactive effluents from the Midland reactors will cause harm or damage to living organisms in the environment.

36. Maximum permissible concentration values tabulated in Title 10 of the Code of Federal Regulations, lead to an unacceptable risk estimate to man and the environment.

37. The lack of a comprehensive study that takes into account both physical and biological concentrating mechanisms and is based upon quantitative data on each and every radionuclide in the inventory of the Midland plant precludes applicant from accurately assessing the environmental impact of the Midland plant.

CONCLUSIONS OF LAW

1. Pursuant to the National Environmental Policy Act of 1969 (42 U. S. C. Section 4321 et seq.)

It is the continuing policy of the Federal Government, . . . to use all practicable means and measures, . . . in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

2. The purpose of the Atomic Energy Act of 1954 (42 U. S. C. Sections 2011 et seq.)

a. The development, use, and control of atomic energy shall be directed so as to make the maximum contribution to the general welfare

and all policies and regulations adopted pursuant to this Act must "to the fullest extent possible" be interpreted and administered in accordance with the policies set forth in National Environmental Policy Act.

The planning and decision-making of the Atomic Energy Commission in connection with the proposed Midland Plant, Units 1 and 2, have an impact on man's environment within the contemplation of Section 102 of NEPA, therefore to insure that the policies of NEPA are carried out the following steps must be performed:

a. An interdisciplinary analysis of the Midland Plant, Units 1 and 2, proposal which includes the resources and analytical methods of the (1) natural sciences, (2) social sciences and (3) environmental design arts must be employed.

b. The cost-benefit formula based by the Atomic Energy Commission in its planning and decision-making process on the Midland Plant, Units 1 and 2, proposal must (1) include criteria which permit quantification of environmental amenities and values hitherto unquantified, for inclusion in this cost-benefit formula, and (2) to the extent that unquantified environmental values and amenities cannot be quantified consideration must be given to the abandonment of the cost-benefit formula, with substitution of a formula/approach which does adequately provide for the appropriate consideration of the environmental values and amenities here involved.

3. The unresolved conflicts concerning alternative uses of environmental values, amenities and resources involved in the Midland Plant, Units 1 and 2, proposal require the study, development and description of appropriate alternatives to the basic course of action including the alternative of total abandonment of the project.

4. The Midland Plant, Units 1 and 2, proposal constitutes "major Federal action" within the contemplation of Section 102 (c) of NEPA. Therefore in addition to those matters set forth in the preceding paragraphs a detailed statement by a responsible official must be made which includes the following additional analysis:

- (a) The Environmental impact of the proposed action.
- (b) Any adverse environmental effects which cannot be avoided should the proposal be implemented.
- (c) Alternatives to the proposed action.

- (d) The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (e) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making the foregoing statement the responsible official is required to consult and obtain comments of Federal, State, and local agencies as well as members of the general public, and such comments must accompany the proposal through the agency review process.

5. The only permissible actions which the Atomic Energy Commission may authorize pursuant to the Atomic Energy Act of 1954, as interpreted pursuant to NEPA, are those actions which have long-term social benefits that outweigh long-term environmental costs as determined by the analytical procedure set forth in the foregoing paragraphs.

6. The Atomic Energy Commission has failed to perform the duties set forth in Conclusions of Law numbers 2 through 5.

7. The construction and operation of the proposed Midland Plant, Units 1 and 2, on the proposed site constitute a nuisance and are a violation of vested legal rights of Mapleton Intervenors under the Constitutions of the State of Michigan and of the United States.

8. It was error on the part of the ASLB to not give any evidentiary weight to the testimony submitted of Dr. Charles W. Huver and to further refuse to hear any additional evidence from two of Mapleton's scientific experts relevant to radio-

IT IS ORDERED that the Director of Regulation deny issuance of a construction permit to applicant Consumers Power Company.

Respectfully Submitted,

A handwritten signature in cursive script, reading "William J. Ginster", written over a horizontal line.

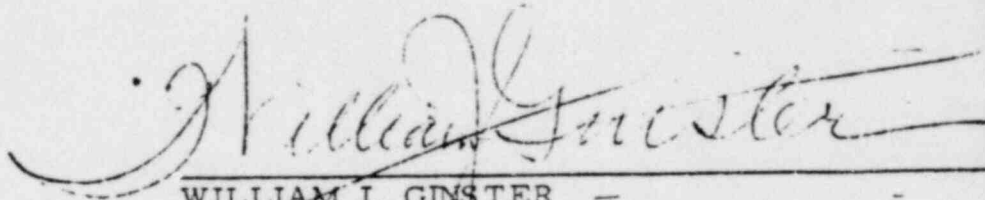
WILLIAM J. GINSTER

Attorney for Mapleton Intervenors

Business Address: No. 4 Merrill Building
Saginaw, Michigan, 48602

CERTIFICATION

I certify that a copy of the foregoing document was mailed September 14, 1972, postage prepaid and properly addressed, to the members of the Atomic Safety and Licensing Board, the Secretary of the Commission, and all counsel of record.

A large, cursive handwritten signature of William J. Ginster, written in dark ink. The signature is fluid and extends across the width of the page, with a long horizontal stroke at the end.

WILLIAM J. GINSTER -

Attorney for Mapleton Intervenors

Business Address: No. 4 Merrill Building

Saginaw, Michigan 48602